

ORIGINAL



0000039854

MEMORANDUM

30

TO: Docket Control

FROM: Ernest G. Johnson  
*EGJ*  
Director  
Utilities Division

DATE: January 23, 2006

RE: STAFF REPORT FOR TACNA WATER MANAGEMENT COMPANY'S  
PERMANENT RATE INCREASE APPLICATION DOCKET NO.W-01344A-  
05-0183 AND FINANCING APPLICATION DOCKET NO.W-01344A-05-0647

Attached is the Staff Report for Tacna Water Management Company's application for a permanent rate increase and financing application. Staff recommends approval of the rate increase application using Staff's recommended rates and charges. Staff also recommends approval of the financing application in the amount recommended in the Staff financing memorandum.

EGJ:CRM:red

Originator: Charles R. Myhlhousen

Attachment: Original and sixteen copies

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Service List for: Tacna Water Management Company  
Docket Nos. W-01344A-05-0183 and W-01344A-05-0647

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**STAFF REPORT  
UTILITIES DIVISION  
ARIZONA CORPORATION COMMISSION**

**TACNA WATER MANAGEMENT COMPANY**

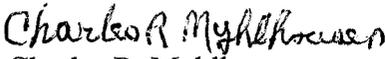
**DOCKET NOS. W-01344A-05-0183  
AND W-01344A-05-0647**

**APPLICATION FOR A  
PERMANENT RATE INCREASE  
AND FINANCING APPROVAL**

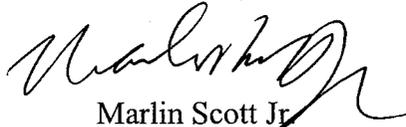
**JANUARY 23, 2005**

## STAFF ACKNOWLEDGMENT

The Staff Report for Tacna Water Management Company, Docket Nos. W-01344A-05-0183 and W-01344A-05-0647, was the responsibility of the Staff members listed below. Charles R. Myhlhousen was responsible for the review and analysis of the Company's rate application, recommended revenue requirements, rate base and rate design. Crystal Brown was responsible for the review and analysis of the Company's financing application. Marlin Scott, Jr. was responsible for the engineering and technical analysis. Reg Lopez was responsible for reviewing the Commission's records on the Company, determining compliance with Commission policies/rules and reviewing customer complaints filed with the Commission.

  
Charles R. Myhlhousen  
Public Utility Analyst III

  
Crystal Brown  
Public Utility Analyst V

  
Marlin Scott Jr.  
Utilities Engineer

  
Reg Lopez  
Public Utilities Consumer Analyst II

**EXECUTIVE SUMMARY  
TACNA WATER MANAGEMENT COMPANY  
DOCKET NOS. W-01344A-05-0183  
AND W-01344A-05-0647**

Tacna Water Management Company ("Tacna" or "Company") is engaged in the business of providing utility water service exclusively to Arizona customers in Yuma County. The Company provides service to approximately 152 customers and its current rates were effective January 1, 1979.

The Company's rate application requested an increase in revenue of \$18,806 or a 70.82 percent increase over test year revenue of \$26,556. The Company's proposed revenues of \$45,362 result in an operating income of \$29,761 for a 65.61 percent operating margin. The Company's requested rates would increase the typical residential bill with a median usage of 6,286 gallons from \$10.96 to \$30.15 for an increase of \$19.19 or 175.1 percent.

Staff's recommends no increase over adjusted test year revenue of \$27,045. Staff's recommended revenues of \$27,045 result in an operating income of \$11,153 for a 41.24 percent operating margin. Due to Staff's recommendation to install a 3-tier inverted block rate structure, Staff's recommended rates would increase the typical residential bill with a median usage of 6,286 gallons from \$10.96 to \$12.37 for an increase of \$1.41 or 12.9 percent.

Staff recommends approval of its rates and charges as presented on Schedule CRM-4 of this report.

The Company submitted a financing application. The purpose of the financing is to provide funds for an arsenic removal water treatment plant. Staff recommends approval of the financing application in the amount of \$195,201 and the arsenic removal surcharge mechanism, as depicted in the Staff financing memorandum.

## TABLE OF CONTENTS

	PAGE
<b>FACT SHEET</b> .....	1
RATES: .....	1
CUSTOMERS: .....	2
NOTIFICATION: .....	2
COMPLAINTS: .....	2
<b>SUMMARY OF FILING</b> .....	3
<b>COMPANY BACKGROUND</b> .....	3
<b>CONSUMER SERVICES</b> .....	3
<b>COMPLIANCE</b> .....	3
<b>RATE BASE</b> .....	4
PLANT-IN-SERVICE:.....	4
ACCUMULATED DEPRECIATION: .....	4
ADVANCES-IN-AID-OF-CONSTRUCTION: .....	4
CONTRIBUTIONS-IN-AID OF -CONSTRUCTION: .....	4
WORKING CAPITAL: .....	5
<b>OPERATING REVENUE</b> .....	5
<b>OPERATING EXPENSES</b> .....	5
<b>FINANCING</b> .....	6
<b>RATE OF RETURN</b> .....	6
<b>REVENUE REQUIREMENT</b> .....	6
<b>RATE DESIGN</b> .....	6
<b>STAFF RECOMMENDATIONS</b> .....	7

### **SCHEDULES**

Summary of Filing .....	Schedule CRM-1
Rate Base .....	Schedule CRM-2
Statement of Operating Income .....	Schedule CRM-3
Rate Design.....	Schedule CRM-4
Typical Bill Analysis .....	Schedule CRM-5

### Attachments

Engineering Report

Financing Report

**Fact sheet**

**Current Rates:** Decision No. 49561, November 2, 1978, rates effective January 1, 1979.

**Type of Ownership:** Arizona C Corporation.

**Location:** The Company serves customers in Yuma County.

**Rates:**

Permanent rate increase application filed: March 11, 2005, amended May 9, 2005 and July 19, 2005.

Current Test Year Ended: December 31, 2003.

Monthly Minimum Charges:

	<u>Company Current Rates</u>	<u>Company Proposed Rates</u>	<u>Staff Recommended Rates</u>
Monthly Minimum Charge Based on ¾ inch meter	\$8.00	\$16.00	\$7.00
Gallons in Minimum	3,000	0	0
Commodity Charge Excess of minimum, per 1,000 gallons	.90	n/a	n/a
All gallons			
Tier one zero to 3,000 gallons		1.80	
Tier two from 3,001 gallons to 8,000 gallons		1.75	
Tier three all gallons over 8,000 gallons		1.65	
Tier one zero to 3,000 gallons			0.75
Tier two from 3,001 gallons to 7,000 gallons			0.95
Tier three all gallons over 7,000 gallons			1.05
Typical residential bill (Based on median usage of 6,286 gallons)	\$10.96	\$30.15	\$12.37

**Customers:**

Average number of customers in prior test year 72, current test year 152.

**Notification:**

Customer Notification was mailed on March 10, 2005.

**Complaints:**

There were no opinions or complaints filed regarding the rate increase.

### **Summary of Filing**

Based on test year results, as adjusted by Utilities Division Staff ("Staff") of the Arizona Corporation Commission ("Commission"), Tacna Water Management Company ("Tacna" or "Company") realized an operating income of \$11,153 for a 41.24 percent operating margin as shown on Schedule CRM-1.

The Company proposed rates produces operating revenues of \$45,362 and operating income of \$29,761 for a 65.61 percent operating margin. The Company's proposed rates would increase the typical residential bill with a median usage of 6,286 gallons from \$10.96 to \$30.15 for an increase of \$19.19 or 175.1 percent.

Staff's recommended rates produce a revenue level of \$27,045 and an operating income of \$11,153 for a 41.24 percent operating margin. Staff's recommended rates would increase the typical residential bill with a median usage of 6,286 gallons from \$10.96 to \$12.37 for an increase of \$1.41 or 12.9 percent.

The Company is registered as an Arizona "C" corporation with the Corporations Division of the Commission.

The Company officially changed its name from Tacna Water Company to Tacna Water Management Company effective October 18, 2005.

### **Company Background**

On March 11, 2005, the Company filed an application for a permanent rate increase with the Commission. On April 11, 2005, the Company filing was found deficient. On May 9, 2005, and July 19, 2005, the Company submitted the deficient items. On July 25, 2005, the application was deemed sufficient.

### **Consumer Services**

A review of the Commission's records revealed the following customer complaints and opinions. No formal complaints were filed against the Company from July 23, 2002 to present. For the same time period, only one informal complaint was lodged against the Company. The complainant indicated that they believed they were receiving canal water verses well water. The customer further stated that the water was not fit to drink. The Arizona Department of Environmental Quality ("ADEQ") replied that the waters source was from a well and the water quality met ADEQ regulations.

### **Compliance**

A check with the Utilities Division Compliance Section showed no outstanding compliance issues.

The Company is current in its property and sales tax payments.

The Company is in good standing with the Corporation's Division of the Commission.

ADEQ has reported no deficiencies and has determined the Company's system PWS #14-018 is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

The Company reported its arsenic concentrations for its two wells at 30 parts per billion ("PPB"). Based on its arsenic concentration, the Company is proposing to construct a water treatment system that will treat surface and groundwater in order to meet the new arsenic maximum contaminant level of 10 ppb.

The Company is not located in any Active Management Area ("AMA") and is not subject to any AMA requirements.

#### **Rate Base**

Staff made adjustments to rate base of \$2,026. These adjustments were made to reflect Staff's disallowance of plant-in-service of \$31,751; accumulated depreciation reduction of \$32,060 and the inclusion of the formula method for working capital allowance in the amount of \$1,717 resulting in a rate base of \$2,962. See Schedule CRM-2 page 1.

#### **Plant-in-Service:**

Staff disallowed plant in service in the amount of \$31,751 that could not be verified. See Schedule CRM-2 page 2.

#### **Accumulated Depreciation:**

Staff decreased the Company's proposed accumulated depreciation amount by \$32,060.

Staff's accumulated depreciation amount was calculated by adding depreciation expense for the years 1978 through the end of 2003, to the Commission approved accumulated depreciation balance in the prior test year ended December 31, 1977 of \$35,290.

#### **Advances-in-Aid-of-Construction:**

The Company has no advances-in-aid-of-construction.

#### **Contributions-in-Aid of -Construction:**

The Company has no contributions-in-aid-of-construction.

**Working Capital:**

The Company neglected to claim any working capital allowance. Staff included a working capital allowance of \$1,717 calculated using the formula method.

**Operating Revenue**

Staff increased operating revenue by \$489 to reflect the revenue produced by the bill count. See Schedule CRM-3, page 1, Adjustment A.

**Operating Expenses**

Staff adjustments to operating expenses results in an increase of \$2,624 from \$15,601 to \$18,225 as shown on Schedule CRM-3 page 1. Adjustments are discussed below.

Adjustment B increased Outside Services by \$2,352 to reflect the amount of \$3,000 for a pro forma adjustment made by Staff for a contract for outside services to read meters, do billings and collection, and a decrease of \$648 for disallowance of an amount not verified.

Adjustment C increased Water Testing by \$1,344 to reflect Staff's recommended expense level.

Adjustment D increased Depreciation Expense by \$5 from zero to \$5 to reflect Staff's recommended amount.

Adjustment E decreased Property Taxes by \$3,410 to reflect the amount that is not for property taxes for the test year.

**Income Tax Expense**

Staff's audit reveals that the Company does not file its own tax returns. Rather, the owner files a schedule C on his personal tax returns as if the Company were a sole-proprietorship. Under these circumstances, Staff recommends no income tax expense be included in the current case.

Staff further recommends that the Company be ordered to:

- a) correctly file its tax returns as a corporate entity, correcting for the last three years, or
- b) file for dissolution of the corporate status and make the utility a sole-proprietorship.

The Company should file copies of the corrected tax returns or a copy of the dissolution of the corporation within 120 days of the effective date of the Decision in this proceeding with the Docket Control Section of the Commission.

### **Financing**

The Company filed a financing application with the Commission September 7, 2005. The Company is seeking financing in the amount of \$195,201. The purpose of the financing is to provide funds for arsenic removal water treatment plant located in Arizona. Staff recommends approval of the financing application and the arsenic removal surcharge mechanism. See the financing memorandum attachment.

### **Rate of Return**

Staff's recommended rates and charges would provide an operating income of \$11,153 for an operating margin of 41.24 percent based on the Company's operating income.

### **Revenue Requirement**

The Company's narrative portion of the application stated that it needs this rate increase because the rates were established in 1977.

Staff does not concur with the Company that it needs a rate increase. Staff does not recommend an increase in revenue. Staff adjusted test year revenue by \$489 to reflect the revenue produced by the bill count. Staff recommends a revenue requirement of \$27,045 which results in an operating income of \$11,153 and a 41.24 percent operating margin.

### **Rate Design**

The Company's proposed rates would increase the median usage customer's bill by 175.1 percent.

The Company is utilizing a three-tier rate design with decreasing commodity charge improperly discounting for increased usage. Staff is recommending an inverted three-tier rate structure. These recommended tiers provide an economic incentive for large consumption customers to conserve. No gallons are included in the minimum charge under the Company's proposed or Staff's recommended rates.

The Company proposes to increase service line and meter installation charges. Staff concurs with the exception that there should be charges for all size service lines and meter installations and Staff has included these.

The Company proposes to increase service charges for Establishment Fees from zero to \$500.00. After Staff's request, the Company has not provided adequate information to support its charge amount. Staff recommends \$30.00 as being reasonable and normal.

The Company proposes to increase Establishment (after hours) from zero to \$750.00. After Staff's request, the Company has not provided adequate information to support its charge amount. Staff recommends \$45.00 as being reasonable and normal.

The Company proposes to increase reconnection (delinquent) from \$5.00 to \$75.00. After Staff's request, the Company has not provided adequate information to support its charge amount. Staff recommends \$25.00 as being reasonable and normal.

The Company proposes to increase Reconnection (delinquent) after hours from zero to \$100.00. After Staff's request, the Company has not provided adequate information to support its charge amount. Staff recommends \$45.00 as being reasonable and normal.

The Company proposes to increase the customer Deposit from zero to \$50.00. After Staff's request, the Company has not provided adequate information to support its charge amount. Staff recommends the Commission's rule R-14-2-403.B as being reasonable and normal.

The Company proposes to increase Deposit Interest from zero to 50 percent. After Staff's request, the Company has not provided adequate information to support its charge amount. Staff recommends the Commission's rule R-14-2-403.B as being reasonable and normal.

The Company proposes to increase Re-establishment (within 12 months) from \$25.00 to \$50.00. After Staff's request, the Company has not provided adequate information to support its charge amount. Staff recommends Commission's rule R-14-2-403.D, number of months off system times the minimum.

The Company proposes to increase Not Sufficient Funds ("NSF") from zero to \$20.00. Staff concurs.

The Company proposes to increase Meter Reread from \$2.50 to \$30.00. After Staff's request, the Company has not provided adequate information to support its charge amount. Staff recommends \$20.00 as being reasonable and normal.

The Company proposes a late fee charge of \$15.00. After Staff's request, the Company has not provided adequate information to support its charge amount. Staff recommends a late fee charge of 1.50 percent on the unpaid balance per month as being reasonable and normal.

### **Staff Recommendations**

Staff recommends:

- Approval of Staff's rates and charges as shown on Schedule CRM-4. In addition to collection of its regular rates and charges, the Company may collect from its

customers a proportionate share of any privilege, sales or use tax per Commission rule (14-2-409-D-5).

- That the Company docket with the Commission a schedule of its approved rates and charges within 30 days after the Decision in this matter is issued.
- That the Company uses the depreciation rates delineated in Table B of the Engineering Report on a going forward basis.
- That the Company install wellhead meters during the construction of proposed water treatment system or within one year of the effective date of the order issued in this proceeding, whichever is sooner.
- That the Company file a curtailment plan in the form of Attachment CPT-1 of the Engineering Report. This tariff shall be docketed as a compliance item in this case within 45 days of the effective date of an order in this proceeding for review and certification by Staff.
- That the Company file a backflow prevention tariff in the form found on the Commission's website at [www.cc.state.az.us/utility/forms/cross\\_c.pdf](http://www.cc.state.az.us/utility/forms/cross_c.pdf). This tariff shall be docketed as a compliance item in this case with Docket Control within 45 days of the effective date of an order in this proceeding for review and certification by Staff.
- That the Company docket with Docket Control, as a compliance item in this case, a copy of the ADEQ Certificate for Approval to Construct for its water treatment system within 60 days of the Commission Decision in this matter.
- Approval of Tacna's request for authorization to incur long-term debt with the understanding that the Commission will subsequently also consider an arsenic removal surcharge to enable the Company to meet its principal and interest obligation on the proposed WIFA loan and incremental income taxes on the surcharge.
- That Tacna file before the Commission an arsenic removal surcharge tariff application that would enable the Company to meet its principal and interest obligations on the proposed WIFA loan and income taxes on the surcharge.
- That the Company follows the same methodology presented on Schedule CSB-4 of the attached financing report, to calculate the additional revenue needed to meet its interest, principal and additional income tax obligations on the WIFA loan using actual loan amounts and use the result to develop its arsenic removal surcharge tariff application. The increase in revenue calculation should be included in the arsenic removal surcharge tariff application.

- Ordering Tacna to file with Docket Control, copies of its calculation of revenue requirement for principal and interest obligations on the WIFA loan and incremental income taxes on the surcharge within 60 days after the loan agreement is signed by both WIFA and the Company.
- Authorizing the Company to execute any documents necessary to effectuate the authorization granted.
- Ordering Tacna to file with Docket Control, copies of all executed financing documents within 60 days after the loan agreement is signed.
- That the Company be ordered to correctly file its tax returns as a corporate entity, correcting for the last three tax years or file for dissolution of the corporate status with the Corporation Division and make the utility a sole-proprietorship.
- The Company should file copies with Docket Control, of the corrected tax returns or a copy of the dissolution of the corporation within 120 days of the effective date of the Decision in this proceeding.

**SUMMARY OF FILING**

	-- Present Rates --		-- Proposed Rates --	
	Company as Filed	Staff as Adjusted	Company as Proposed	Staff as Recommended
Revenues:				
Metered Water Revenue	\$26,556	\$27,045	\$45,362	\$27,045
Arsenic Surcharge	0	0	0	0
Other Water Revenues	0	0	0	0
<b>Total Operating Revenue</b>	<b>\$26,556</b>	<b>\$27,045</b>	<b>\$45,362</b>	<b>\$27,045</b>
Operating Expenses:				
Operation and Maintenance	\$10,658	\$14,354	\$10,658	\$14,354
Depreciation	0	5	0	5
Property & Other Taxes	4,943	1,533	4,943	1,533
Income Tax	0	0	0	0
<b>Total Operating Expense</b>	<b>\$15,601</b>	<b>\$15,892</b>	<b>\$15,601</b>	<b>\$15,892</b>
<b>Operating Income/(Loss)</b>	<b>\$10,955</b>	<b>\$11,153</b>	<b>\$29,761</b>	<b>\$11,153</b>
Rate Base O.C.L.D.	\$936	\$2,962	\$936	\$2,962
Rate of Return - O.C.L.D.	NMN	NMN	NMN	NMN
Operating Margin	41.25%	41.24%	65.61%	41.24%

NOTES: NMN Not meaningful number.

**RATE BASE**

	----- Original Cost -----			Staff
	Company	Adjustment		
Plant in Service	\$122,942	(\$31,751)	A	\$91,191
Less:				
Accum. Depreciation	121,356	(32,060)	B	89,296
<b>Net Plant</b>	<b>\$1,586</b>	<b>\$309</b>		<b>\$1,895</b>
Less:				
Plant Advances	\$0	\$0		\$0
Meter Deposits	650	0		650
<b>Total Advances</b>	<b>\$650</b>	<b>\$0</b>		<b>\$650</b>
Contributions Gross	\$0	\$0		\$0
Less:				
Amortization of CIAC	0	0		0
<b>Net CIAC</b>	<b>\$0</b>	<b>\$0</b>		<b>\$0</b>
<b>Total Deductions</b>	<b>\$650</b>	<b>\$0</b>		<b>\$650</b>
Plus:				
1/24 Power	(0)	\$39	C	\$39
1/8 Operation & Maint.	(0)	1,678	C	1,678
Inventory	0	0		0
Prepayments	0	0		0
<b>Total Additions</b>	<b>(\$0)</b>	<b>\$1,717</b>		<b>\$1,717</b>
<b>Rate Base</b>	<b>\$936</b>	<b>\$2,026</b>		<b>\$2,962</b>

A See Schedule 2, page 2.

B See Schedule 2, page 3.

C Staff's inclusion of formula-method working capital, based on recommended operating expenses.

**PLANT ADJUSTMENT**

	Company Exhibit	Adjustment	Staff Adjusted
301 Organization	\$0	\$0	\$0
302 Franchises	0	0	0
303 Land & Land Rights	0	1,800 A	1,800
304 Structures & Improvements	0	4,330 A	4,330
307 Wells & Springs	13,774	(3,503) A	10,271
311 Pumping Equipment	15,072	(7,633) A	7,439
320 Water Treatment Equipment	9,936	(8,647) A	1,289
330 Distribution Reservoirs & Standpipes	0	12,926 A	12,926
331 Transmission & Distribution Mains	70,842	(38,950) A	31,892
333 Services	10,640	(8,065) A	2,575
334 Meters & Meter Installations	0	0	0
335 Hydrants	0	180 A	180
336 Backflow Prevention Devices	0	0	0
339 Other Plant and Misc. Equipment	2,678	(2,678) A	0
340 Office Furniture & Equipment	0	620 A	620
341 Transportation Equipment	0	13,823 A	13,823
343 Tools Shop & Garage Equipment	0	350 A	350
344 Laboratory Equipment	0	0	0
345 Power Operated Equipment	0	3,696 A	3,696
346 Communication Equipment	0	0	0
347 Miscellaneous Equipment	0	0	0
348 Other Tangible Plant	0	0	0
105 C.W.I.P.	0	0	0
<b>TOTALS</b>	<b>\$122,942</b>	<b>(\$31,751)</b>	<b>\$91,191</b>

A Staff adjusted plant-in-service by \$31,751. These are plant additions claimed for years 1978 through 2003. These amounts could not be verified. Staff allowed plant-in-service balance that was allowed in the last rate case in 1977.

**ACCUMULATED DEPRECIATION ADJUSTMENT**

	<u>Amount</u>
Accumulated Depreciation - Per Company	\$121,356
Accumulated Depreciation - Per Staff	89,296 A
<b>Total Adjustment</b>	<b><u>(\$32,060)</u></b>

*Explanation of Adjustment:*

- A - Staff adjusted the accumulated depreciation by starting with the accumulated depreciation ending December 31, 1977 and adding the depreciation expenses for all years from 1978 through 2003.

Year 1977	\$ 35,290
Years 1978 through 2003	54,006
	<u>\$ 89,296</u>

**STATEMENT OF OPERATING INCOME**

	Company Exhibit	Staff Adjustments		Staff Adjusted
<b>Revenues:</b>				
461 Metered Water Revenue	\$26,556	\$489	A	\$27,045
460 Unmetered Water Revenue	0	0		0
474 Other Water Revenues	0	0		0
<b>Total Operating Revenue</b>	<b>\$26,556</b>	<b>\$489</b>		<b>\$27,045</b>
<b>Operating Expenses:</b>				
601 Salaries and Wages	\$0	\$0		\$0
610 Purchased Water	0	0		0
615 Purchased Power	932	0		932
618 Chemicals	0	0		0
620 Repairs and Maintenance	2,523	0		2,523
621 Office Supplies & Expense	638	0		638
630 Outside Services	6,565	2,352	B	8,917
635 Water Testing	0	1,344	C	1,344
641 Rents	0	0		0
650 Transportation Expenses	0	0		0
657 Insurance - General Liability	0	0		0
659 Insurance - Health and Life	0	0		0
666 Regulatory Commission Expense - Rate Case	0	0		0
675 Miscellaneous Expense	0	0		0
403 Depreciation Expense	0	5	D	5
408 Taxes Other Than Income	0	0		0
408.11 Property Taxes	4,943	(3,410)	E	1,533
409 Income Tax	0	0		0
<b>Total Operating Expenses</b>	<b>\$15,601</b>	<b>\$291</b>		<b>\$15,892</b>
<b>OPERATING INCOME/(LOSS)</b>	<b>\$10,955</b>	<b>\$198</b>		<b>\$11,153</b>
<b>Other Income/(Expense):</b>				
419 Interest and Dividend Income	\$0	\$0		\$0
421 Non-Utility Income	0	0		0
427 Interest Expense	0	0		0
4XX Reserve/Replacement Fund Deposit	0	0		0
426 Miscellaneous Non-Utility Expense	0	0		0
<b>Total Other Income/(Expense)</b>	<b>\$0</b>	<b>\$0</b>		<b>\$0</b>
<b>NET INCOME/(LOSS)</b>	<b>\$10,955</b>	<b>\$198</b>		<b>\$11,153</b>

**STAFF ADJUSTMENTS**

A	-	METERED WATER REVENUE - Per Company	\$26,556	
		Per Staff	27,045	\$489

Staff adjusted metered water revenue by \$489 to the revenue verified by the bill count analysis.

B	-	OUTSIDE SERVICES - Per Company	\$6,565	
		Per Staff	8,917	\$2,352

Staff removed \$648 that could not be verified and made a proforma adjustment of \$3,000 for contract services by Sunstate Environment.

C	-	WATER TESTING - Per Company	\$0	
		Per Staff	1,344	\$1,344

To adjust to Staff Engineer's recommended expense level.

D	-	DEPRECIATION - Per Company	\$0	
		Per Staff	5	\$5

To adjust to Staff recommended depreciation amount

**Pro Forma Annual Depreciation Expense:**

Plant in Service	\$91,191	
Less: Non Depreciable Plant	1,800	
Fully Depreciated Plant	89,296	
Depreciable Plant	\$95	
Times: Staff Proposed Depreciation Rate	5.00%	
<b>Pro Forma Annual Depreciation Expense</b>	<b>\$5</b>	

**STAFF ADJUSTMENTS (Cont.)**

E -	PROPERTY TAXES - Per Company	\$4,943	
	Per Staff	<u>1,533</u>	<u>(\$3,410)</u>

Staff allowed the amount of \$1,533 paid for property taxes for the test year of 2003. Staff removed \$3,410 for amount paid for other than year 2003.

**RATE DESIGN**

Monthly Usage Charge All Customers	Present	-Proposed Rates-	
	Rates	Company	Staff
5/8" x 3/4" Meter	See below	See below	17.00
3/4" Meter	See below	See below	7.00
1" Meter	See below	See below	11.62
1½" Meter	See below	See below	23.25
2" Meter	See below	See below	37.20
3" Meter	See below	See below	69.75
4" Meter	See below	See below	116.25
6" Meter	See below	See below	232.50
Gallons included in minimum	0	0	0
<b>For All Meter Sizes All Customers</b>			
Tier-one zero gallons to 3,000 gallons	n/a	n/a	0.75
Tier-two 3,100 gallons to 7,000 gallons	n/a	n/a	0.95
Tier-three all gallons over 7,000 gallons	n/a	n/a	1.05
<b>Monthly Usage Charge Residential</b>			
5/8" x 3/4" Meter	\$8.00	\$15.50	See Above
3/4" Meter	n/a	16.00	See Above
1" Meter	n/a	n/a	See Above
1½" Meter	n/a	n/a	See Above
2" Meter	n/a	n/a	See Above
3" Meter	n/a	n/a	See Above
4" Meter	n/a	n/a	See Above
6" Meter	n/a	n/a	See Above
Gallons included in minimum	3,000	0	
Excess of Minimum - per 1,000 Gallons	0.90	n/a	n/a
<b>For All Meter Sizes Residential</b>			
Tier-one zero gallons to 3,000 gallons		1.80	n/a
Tier-two 3,100 gallons to 8,000 gallons		1.75	n/a
Tier-three all gallons over 8,000 gallons		1.65	n/a
<b>Monthly Usage Charge Commercial</b>			
5/8" x 3/4" Meter	\$14.00	\$27.72	See Above
3/4" Meter	n/a	27.72	See Above
1" Meter	14.00	29.00	See Above
1½" Meter	n/a	n/a	See Above
2" Meter	14.00	35.00	See Above
3" Meter	n/a	n/a	See Above
4" Meter	n/a	n/a	See Above
6" Meter	n/a	n/a	See Above
Excess of Minimum - per 1,000 Gallons	\$0.90	\$0.00	n/a
Gallons Included in Minimum	3,000	0	0
<b>For All Meter Sizes- Commercial</b>			
Tier-one zero gallons to 3,000 gallons	n/a	2.20	See Above
Tier-two 3,100 gallons to 8,000 gallons	n/a	2.00	See Above
Tier-three all gallons over 8,000 gallons	n/a	1.90	See Above
<b>Service Line and Meter Installation Charges</b>			
5/8" x 3/4" Meter	\$100.00	\$760.00	\$520.00
3/4" Meter	120.00	780.00	600.00
1" Meter	160.00	1,400.00	690.00
1½" Meter	300.00	2,100.00	935.00
2" Meter	400.00	4,200.00	1,595.00
3" Meter	n/a	n/a	2,275.00
4" Meter	n/a	n/a	3,520.00
6" Meter	n/a	n/a	6,275.00
<b>Service Charges</b>			
Establishment	n/a	\$500.00	\$25.00
Establishment (After Hours)	n/a	750.00	40.00
Reconnection (Delinquent)	5.00	75.00	25.00
Meter Test (If Correct)	n/a	n/a	25.00
Deposit	n/a	50.00	
Deposit Interest	n/a	50.00%	
Re-Establishment (Within 12 Months)	25.00	50.00	**
NSF Check	n/a	20.00	20.00
Deferred Payment	n/a	n/a	0.00%
Meter Re-Read (If Correct)	2.50	30.00	0.00
Late Fee		15.00	***

\* Per Commission Rules (R14-2-403.B)

\*\* Months off system times the minimum (R14-2-403.D)

\*\*\* 1.50% of unpaid monthly balance

**TYPICAL BILL ANALYSIS**

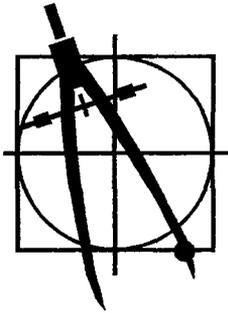
General Service 3/4 - Inch Meter

Average Number of Customers: 114

<u>Company Proposed</u>	<u>Gallons</u>	<u>Present Rates</u>	<u>Proposed Rates</u>	<u>Dollar Increase</u>	<u>Percent Increase</u>
Average Usage	11,209	\$15.39	\$35.45	\$20.06	130.3%
Median Usage	6,286	\$10.96	\$30.15	\$19.19	175.1%
<u>Staff Proposed</u>					
Average Usage	11,209	\$15.39	\$17.47	\$2.08	13.5%
Median Usage	6,286	\$10.96	\$12.37	\$1.41	12.9%

Present & Proposed Rates (Without Taxes)  
General Service 3/4 - Inch Meter

<u>Gallons Consumption</u>	<u>Present Rates</u>	<u>Company Proposed Rates</u>	<u>% Increase</u>	<u>Staff Proposed Rates</u>	<u>% Increase</u>
0	\$8.00	\$16.00	100.0%	\$7.00	-12.5%
1,000	8.00	17.80	122.5%	7.75	-3.1%
2,000	8.00	19.60	145.0%	8.50	6.3%
3,000	8.00	21.40	167.5%	9.25	15.6%
4,000	8.90	23.15	160.1%	10.20	14.6%
5,000	9.80	24.90	154.1%	11.15	13.8%
6,000	10.70	26.65	149.1%	12.10	13.1%
7,000	11.60	28.40	144.8%	13.05	12.5%
8,000	12.50	30.15	141.2%	14.10	12.8%
9,000	13.40	31.80	137.3%	15.15	13.1%
10,000	14.30	33.45	133.9%	16.20	13.3%
15,000	18.80	41.70	121.8%	21.45	14.1%
20,000	23.30	49.95	114.4%	26.70	14.6%
25,000	27.80	58.20	109.4%	31.95	14.9%
50,000	50.30	99.45	97.7%	58.20	15.7%
75,000	72.80	140.70	93.3%	84.45	16.0%
100,000	95.30	181.95	90.9%	110.70	16.2%
125,000	117.80	223.20	89.5%	136.95	16.3%
150,000	140.30	264.45	88.5%	163.20	16.3%
175,000	162.80	305.70	87.8%	189.45	16.4%
200,000	185.30	346.95	87.2%	215.70	16.4%



**Engineering Report for Tacna Water Company**

**Docket No. W-01344A-05-0183 (Rates)**

**By: Marlin Scott, Jr.**  
**Utilities Engineer**

**October 4, 2005**

**CONCLUSIONS**

- A. The Tacna Water Company ("Company") water system's current two source well capacity is adequate to serve the present customer base.
- B. The Arizona Department of Environmental Quality ("ADEQ") has reported no deficiencies and has determined that the Company's system, PWS #14-018, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.
- C. The Company reported its arsenic concentrations for its two wells at 30 parts per billion ("ppb"). Based on this arsenic concentration, the Company is proposing to construct a water treatment system that will treat surface and groundwater in order to meet the new arsenic Maximum Contaminant Level of 10 ppb.
- D. The Company is not located in any Active Management Area ("AMA") and is not subject to any AMA requirements.
- E. The Company has no outstanding Commission compliance issues.

**RECOMMENDATIONS**

- 1. Staff recommends that the Company install wellhead meters during the construction of the proposed water treatment system or within one year of the effective date of the order issued in this proceeding, whichever is sooner.
- 2. Staff recommends its annual water testing expense of \$1,344 be used for purposes of this application.
- 3. Staff recommends that the Company use the depreciation rates delineated in Table B on a going-forward basis.
- 4. Staff recommends approval of Staff's requested Service Line and Meter Installation Charges as delineated in Table C.

5. Staff recommends that the Company file a curtailment plan tariff in the form of Attachment CPT-1. This tariff shall be docketed as a compliance item in this case within 45 days of the effective date of an order in this proceeding for review and certification by Staff.
6. Staff recommends that the Company file a backflow prevention tariff in the form found on the Commission's website at [www.cc.state.az.us/utility/forms/cross\\_c.pdf](http://www.cc.state.az.us/utility/forms/cross_c.pdf). This tariff shall be docketed as a compliance item in this case within 45 days of the effective date of an order in this proceeding for review and certification by Staff.
7. Staff recommends that the Company docket a copy of the ADEQ Certificate for Approval to Construct for its water treatment system within 60 days of a Commission decision in this matter.

**TABLE OF CONTENTS**

	<b><u>PAGE</u></b>
<b>ENGINEERING REPORT FOR TACNA WATER COMPANY .....</b>	<b>1</b>
CONCLUSIONS .....	1
RECOMMENDATIONS .....	1
<b>A. LOCATION OF COMPANY .....</b>	<b>1</b>
<b>B. DESCRIPTION OF THE WATER SYSTEM.....</b>	<b>1</b>
FIGURE 1. YUMA COUNTY MAP .....	3
FIGURE 2. CERTIFICATED AREA.....	4
FIGURE 3. SYSTEM SCHEMATIC .....	5
<b>C. WATER USE .....</b>	<b>6</b>
<u>WATER SOLD</u> .....	6
FIGURE 4. WATER USE.....	6
<u>NON-ACCOUNT WATER</u> .....	6
<u>SYSTEM ANALYSIS</u> .....	7
<b>D. GROWTH.....</b>	<b>7</b>
FIGURE 5. GROWTH PROJECTION.....	7
<b>E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) COMPLIANCE .....</b>	<b>8</b>
<u>COMPLIANCE</u> .....	8
<u>WATER TESTING EXPENSE</u> .....	8
TABLE A. WATER TESTING COST.....	8
<u>ARSENIC</u> .....	9
<b>F. ARIZONA DEPARTMENT OF WATER RESOURCES COMPLIANCE.....</b>	<b>9</b>
<b>G. ARIZONA CORPORATION COMMISSION COMPLIANCE.....</b>	<b>9</b>
<b>H. DEPRECIATION RATES .....</b>	<b>9</b>
TABLE B. DEPRECIATION RATES .....	10
<b>I. OTHER ISSUES.....</b>	<b>11</b>
1. <u>SERVICE LINE AND METER INSTALLATION CHARGES</u> .....	11
TABLE C. SERVICE LINE AND METER INSTALLATION CHARGES .....	11
2. <u>CURTAILMENT PLAN TARIFF</u> .....	12
3. <u>BACKFLOW PREVENTION TARIFF</u> .....	12
4. <u>APPLICATION FOR CERTIFICATE OF CONVENIENCE AND NECESSITY EXTENSION</u> .....	12

**ATTACHMENT**

CURTAILMENT PLAN TARIFF .....	CPT-1
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**A. LOCATION OF COMPANY**

Tacna Water Company ("Company") serves the community of Tacna which is approximately 40 miles east of Yuma along Interstate Highway 8. Figure 1 shows the location of the Company within Yuma County and Figure 2 shows the certificated area covering approximately 1/8 square-mile.

**B. DESCRIPTION OF THE WATER SYSTEM**

The water system was field inspected on May 12, 2005, by Marlin Scott, Jr., Staff Utilities Engineer, in the accompaniment of Don Kelland, Owner, and Steve Kelland, Manager of the Company. The current system consists of a pumping site and a distribution system. The pumping site has two wells producing an estimated total production of 310 gallons per minute ("GPM"), an 8,000 gallon pressure tank and a distribution system serving 152 service connections.

A system schematic is shown as Figure 3 and a detailed plant facility listing is as follows:

Table 1. Well Data

Well (Pumping Site)	Pump (Hp)	Pump GPM (estimated)	Casing Size	Casing Depth (Feet)	Year Drilled	Meter Size
West Well	25	200	6"	285'	1983	None
South Well	20	110	8"	260'	1983	None

Table 2. Storage Tank and Booster System

Location	Storage Tanks	Booster Pumps	Pressure Tank
@ Pumping Site	325,000 gallon (not connected to system)	None	8,000 gallon

Table 3. Water Mains

Diameter	Material	Length
2-inch	PVC	3,000 ft.
4-inch	ACP	1,600 ft.
6-inch	ACP	1,200 ft.
	Total:	5,800 ft.

Table 4. Customer Meters

Size	Quantity
5/8 x 3/4-inch	160
3/4-inch	-
1-inch	7
1-1/2-inch	-
2-inch	2
Total:	169

Table 5. Structures

Structures
Pumping Site: 100 feet by 200 feet of chain link fencing

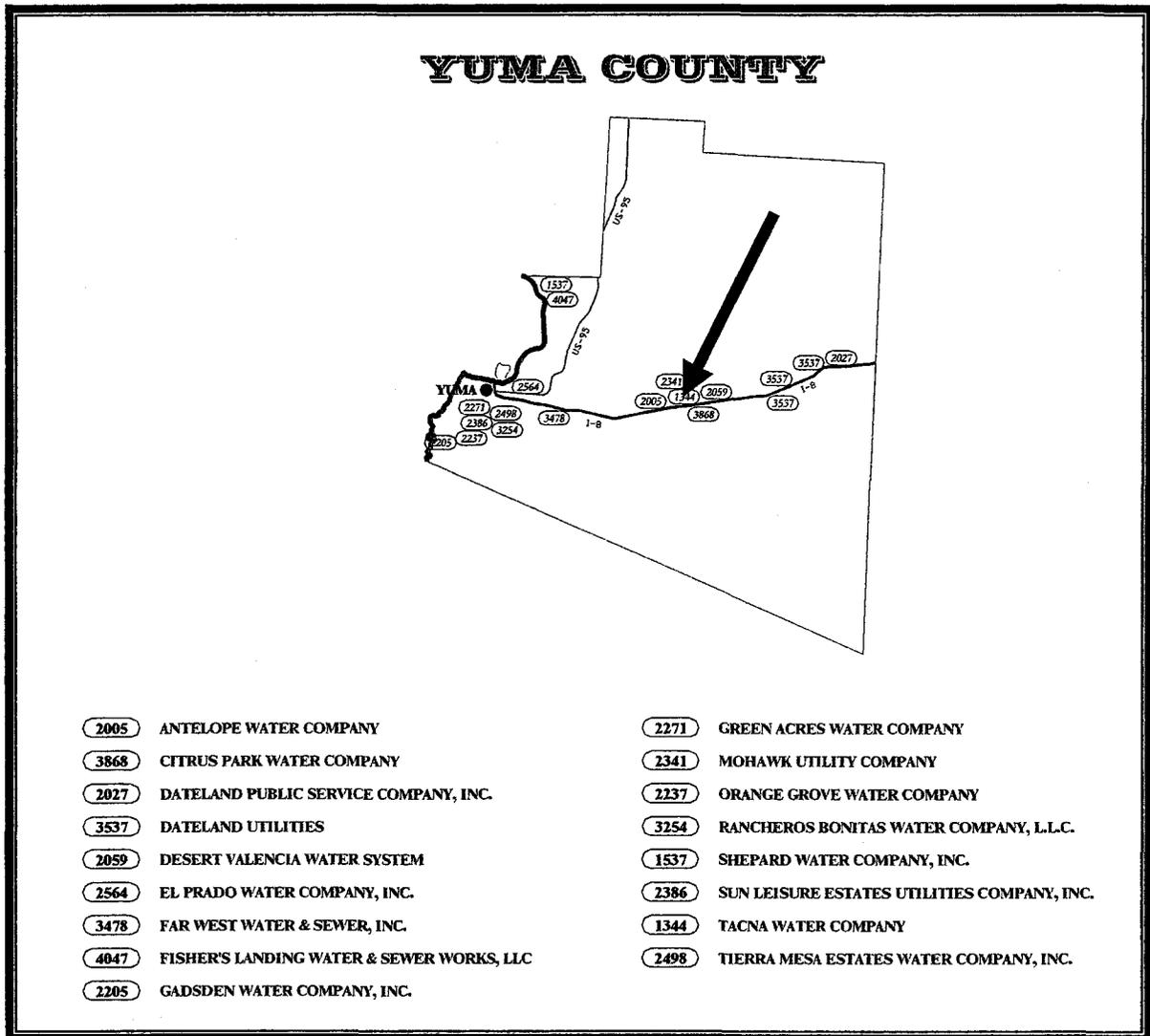


Figure 1. Yuma County Map

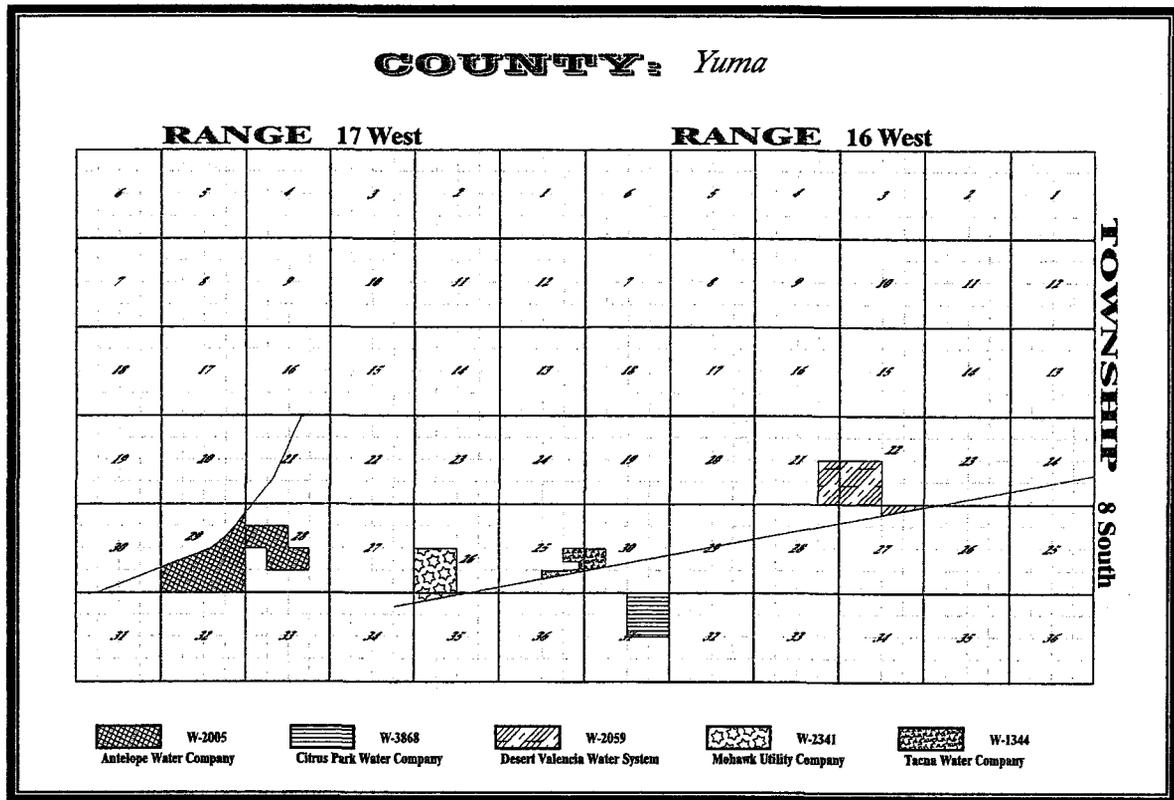


Figure 2. Certificated Area

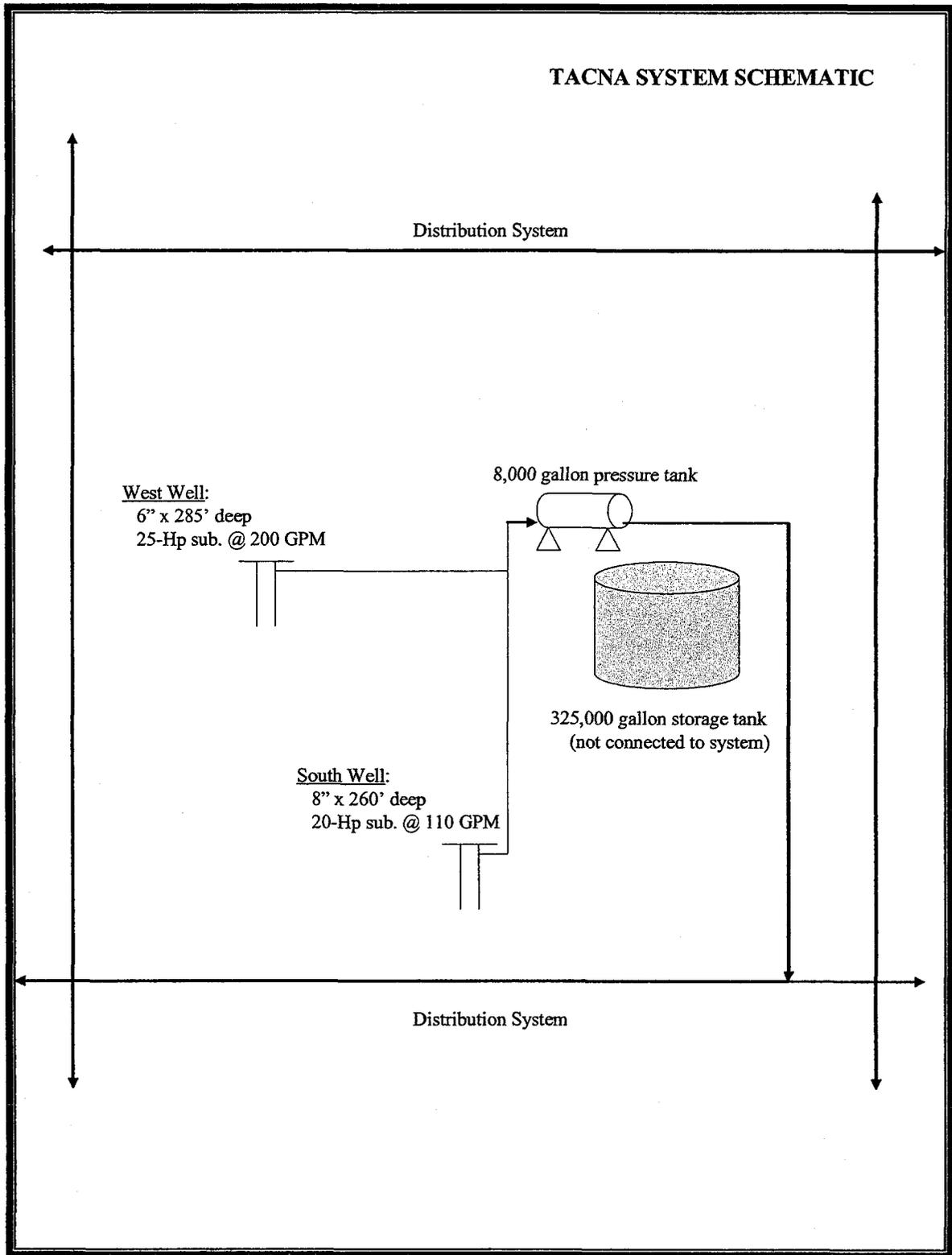


Figure 3. System Schematic

### C. WATER USE

#### Water Sold

Figure 4 represents the water consumption data provided by the Company in its Water Use Data Sheets. Customer consumption experienced a high monthly water use of 650 gallons per day (“GPD”) per connection in August 2004 and a low monthly water use of 112 GPD per connection in April 2004 for a 20-month average use of 357 GPD per connection.

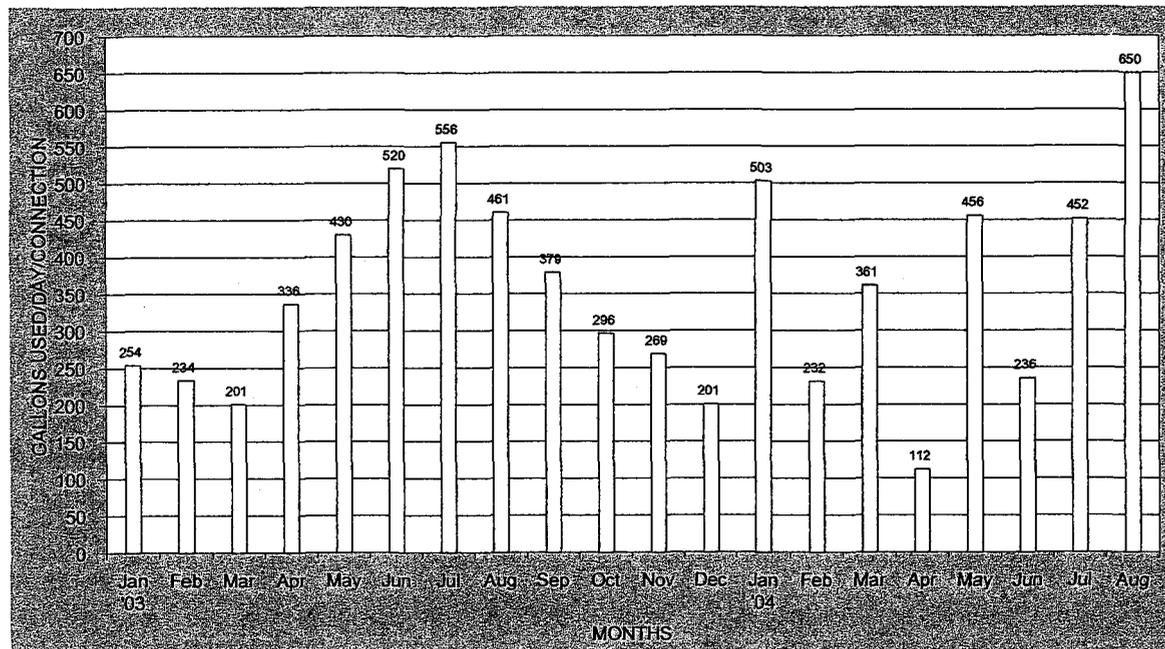


Figure 4. Water Use

#### Non-Account Water

Non-account water should be 10% or less. The Company does not have wellhead meters on either of its wells and could not report the actual number of gallons pumped. Although a wellhead meter is not required by ADEQ or ADWR outside an AMA, meters should be installed, possibly during the construction of the proposed water treatment system, in order for the Company to monitor its pumping equipment, water usage and system efficiency. (See Attachment MSJ – 2, Engineering Report for financing.)

Staff recommends that the Company install wellhead meters during the construction of the proposed water treatment system or within one year of the effective date of the order issued in this proceeding, whichever is sooner.

**System Analysis**

The system's current two source well capacity totaling 310 GPM could adequately serve approximately 340 service connections. The system currently has 152 connections. Although the water system does not have a storage tank connected to the system, an old 325,000 gallon storage tank is currently located on the pumping site. This old storage tank is projected to be refurbished during the construction of the water treatment system. The Company also plans to construct two new 300,000 gallon storage tanks during the extension of its CC&N. (See Section I.4. for discussion of CC&N extension.)

**D. GROWTH**

Based on customer data obtained from the Company's Annual Reports, it is projected that the Company could have approximately 165 customers by 2009. Figure 5 depicts actual growth from 1996 to 2004 and projects an estimated growth for the next five years using linear regression analysis.

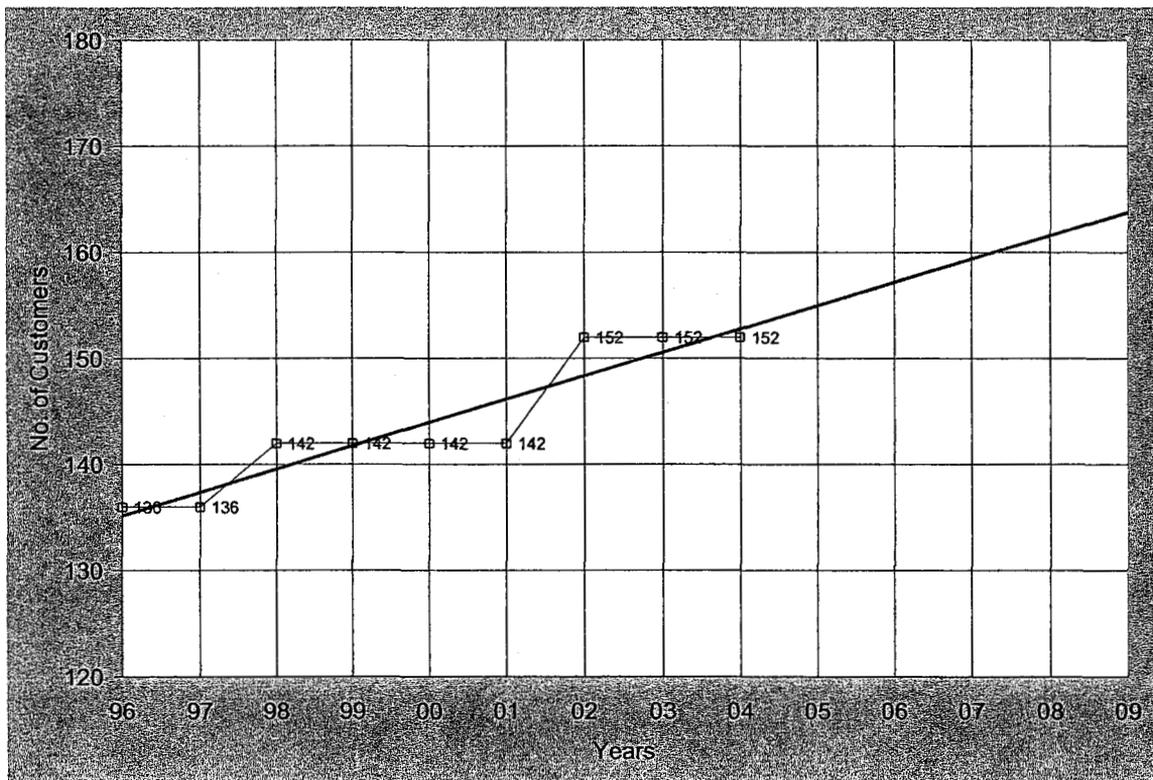


Figure 5. Growth Projection

## E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY ("ADEQ") COMPLIANCE

### Compliance

ADEQ reported no deficiencies and has determined that the Company's system, PWS #14-018, is currently delivering water that meets the water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

### Water Testing Expense

The Company is subject to mandatory participation in the Monitoring Assistance Program ("MAP"). Starting January 1, 2002, water companies paid a fixed \$250 per year fee, plus an additional fee of \$2.07 per service connection, regardless of meter size for participation in MAP. Participation in the MAP program is mandatory for water systems, which serve less than 10,000 persons (approximately 3,300 service connections).

The Company reported its water testing expense at \$1,240 during the test year. Table A shows Staff's annual monitoring expense estimate of \$1,344 with participation in the MAP. Staff recommends its annual water testing expense of \$1,344 be used for purposes of this application.

Table A. Water Testing Cost

Monitoring (Tests per 3 years, unless noted.)	Cost per test	No. of tests per 3 years	Total 3 year cost	Annual Cost
Total coliform – monthly	\$30	36	\$1,080	\$360
Inorganics – Priority Pollutants	MAP	MAP	MAP	MAP
Radiochemical – per 4 years	MAP	MAP	MAP	MAP
Phase II and V:				
Nitrate – annual	\$40	3	\$120	\$40
Nitrite – once per period	MAP	MAP	MAP	MAP
Asbestos – per 9 years	MAP	MAP	MAP	MAP
MAP – IOCs, SOCs, & VOCs	MAP	MAP	MAP	\$544
Lead & Copper – per year	\$40	30	\$1,200	\$400
Total				<b>\$1,344</b>

Note: ADEQ - MAP invoice for the 2005 Calendar Year is \$543.94 for 142 service connections.

### **Arsenic**

The U.S. Environmental Protection Agency has reduced the arsenic maximum contaminant level ("MCL") in drinking water from 50 parts per billion ("ppb") to 10 ppb. The date for compliance with the new MCL is January 23, 2006.

The Company reported its arsenic concentration for its two wells at 30 ppb. Based on this arsenic concentration, the Company is proposing to construct a water treatment system that will treat surface and groundwater in order to meet the new arsenic MCL. This treatment system construction is discussed in Attachment MSJ – 2, Engineering Report for financing.

Staff recommends that the Company docket a copy of the ADEQ Certificate for Approval to Construct for its water treatment system within 60 days of a Commission decision in this matter.

### **F. ARIZONA DEPARTMENT OF WATER RESOURCES COMPLIANCE**

The Company is not located in any Active Management Area ("AMA") and therefore, is not subject to any AMA requirements.

### **G. ARIZONA CORPORATION COMMISSION COMPLIANCE**

A check with the Utilities Division Compliance Section indicated this Company has no outstanding compliance issues.

### **H. DEPRECIATION RATES**

It appears the Company has been using a depreciation rate of 5.00% in every National Association of Regulatory Utility Commissioners ("NARUC") plant category. In recent orders, the Commission has been shifting away from the use of composite rates in favor of individual depreciation rates by NARUC category. (For example, a uniform 5% composite rate would not really be appropriate for either vehicles or transmission mains and instead, different specific retirement rates should be used.)

Staff has developed typical and customary depreciation rates within a range of anticipated equipment life. These rates are presented in Table B and it is recommended that the Company use depreciation rates by individual NARUC category on a going-forward basis.

Table B. Depreciation Rates

NARUC Acct. No.	Depreciable Plant	Average Service Life (Years)	Annual Accrual Rate (%)
304	Structures & Improvements	30	3.33
305	Collecting & Impounding Reservoirs	40	2.50
306	Lake, River, Canal Intakes	40	2.50
307	Wells & Springs	30	3.33
308	Infiltration Galleries	15	6.67
309	Raw Water Supply Mains	50	2.00
310	Power Generation Equipment	20	5.00
311	Pumping Equipment	8	12.5
320	Water Treatment Equipment		
320.1	Water Treatment Plants	30	3.33
320.2	Solution Chemical Feeders	5	20.0
330	Distribution Reservoirs & Standpipes		
330.1	Storage Tanks	45	2.22
330.2	Pressure Tanks	20	5.00
331	Transmission & Distribution Mains	50	2.00
333	Services	30	3.33
334	Meters	12	8.33
335	Hydrants	50	2.00
336	Backflow Prevention Devices	15	6.67
339	Other Plant & Misc Equipment	15	6.67
340	Office Furniture & Equipment	15	6.67
340.1	Computers & Software	5	20.00
341	Transportation Equipment	5	20.00
342	Stores Equipment	25	4.00
343	Tools, Shop & Garage Equipment	20	5.00
344	Laboratory Equipment	10	10.00
345	Power Operated Equipment	20	5.00
346	Communication Equipment	10	10.00
347	Miscellaneous Equipment	10	10.00
348	Other Tangible Plant	----	----

NOTES:

1. These depreciation rates represent average expected rates. Water companies may experience different rates due to variations in construction, environment, or the physical and chemical characteristics of the water.

2. Acct. 348, Other Tangible Plant may vary from 5% to 50%. The depreciation rate would be set in accordance with the specific capital items in this account.

**I. OTHER ISSUES**

**1. Service Line and Meter Installation Charges**

The Company has requested changes in its service line and meter installation charges. These charges are refundable advances and the Company's requested charges are not within Staff's customary range of charges. The Company based its requested amounts to similar installation charges of an unregulated Commission water system in nearby Wellton.

After Staff discussions with the Company, the Company agreed to the higher end of Staff's customary range of charges. The discussion involved the fact that the Company's office and equipment are located in Yuma and the mobilization cost (40 miles from the certificated area) could be assisted by the higher end of Staff's range of charges. Therefore, Staff recommends approval of its charges as shown in Table C below.

Table C. Service Line and Meter Installation Charges

Meter Size	Company Current Charges	Company Requested Charges	Staff's Recommendation
5/8 x 3/4-inch	\$100	\$760	\$520
3/4-inch	\$120	\$780	\$600
1-inch	\$160	\$1,400	\$690
1-1/2-inch	\$300	\$2,100	\$935
2-inch	\$400	\$4,200	\$1,595
3-inch	NT	-	\$2,275
4-inch	NT	-	\$3,520
6-inch	NT	-	\$6,275

Note: NT means no tariff.

**2. Curtailement Plan Tariff**

A Curtailement Plan Tariff ("CPT") is an effective tool to allow a water company to manage its resources during periods of shortages due to pump breakdowns, droughts, or other unforeseeable events. Since the Company does not have this type of tariff, this rate proceeding provides an opportune time to prepare and file such a tariff.

Staff recommends that the Company file a CPT in the form at the attached. This CPT shall be docketed as a compliance item in this case within 45 days of the effective date of an order in this proceeding for review and certification by Staff.

### **3. Backflow Prevention Tariff**

The Company does not have a backflow prevention tariff; therefore Staff recommends that the Company file this tariff in the form found on the Commission's website at [www.cc.state.az.us/utility/forms/cross\\_c.pdf](http://www.cc.state.az.us/utility/forms/cross_c.pdf). This tariff shall be docketed as a compliance item in this case within 45 days of the effective date of an order in this proceeding for review and certification by Staff.

### **4. Application for Certificate of Convenience and Necessity ("CC&N") extension, Docket No. W-01344A-04-0815**

On November 10, 2004, the Company filed an application to extend its CC&N. The sufficiency of the application is pending submittal of the correct legal descriptions. In the application, the Company is proposing to extend its certificated area to approximately 10 different parcels with projects to be constructed in phases. In order to provide sufficient water to the requested parcels, the Company has contracted a 100 acre-feet per year allocation of Colorado River water from the Wellton-Mohawk Irrigation and Drainage District.

Brief description of each phase-in project is as follows:

- Phase 1: This project involves the construction of a canal turn-out, pumping site and approximately 8,000 feet of transmission main, at an estimated cost of \$66,033.
- Phase 2: This project will consist of the construction of a 100 GPM Trimate water treatment system (adsorption clarifier/filtration tank), refurbishment of the old 325,000 gallon storage tank and additional booster pumps. Estimated cost of this project is \$194,235.
- Phase 3: This project will consist of a new 300,000 gallon storage tank, booster system and 15,000 feet of transmission main, at an estimated cost of \$307,500.
- Phase 4: This project will consist of a second new 300,000 gallon storage tank, booster system and 14,500 feet of transmission main, at an estimated cost of \$378,246.
- TOTAL ESTIMATED COST: \$946,014

# TARIFF SCHEDULE

Attachment CPT-1

Utility: Tacna Water Company  
Docket No.: W-01344A-05-0183  
Phone No.: 928-341-9885

Sheet No: 1 of 4  
Decision No.: \_\_\_\_\_  
Effective: \_\_\_\_\_

## CURTAILMENT PLAN FOR TACNA WATER COMPANY

(Template 063004)

ADEQ Public Water System No: 14-018

**Tacna Water Company** ("Company") is authorized to curtail water service to all customers within its certificated area under the terms and conditions listed in this tariff.

This curtailment plan shall become part of the Arizona Department of Environmental Quality Emergency Operations Plan for the Company.

The Company shall notify its customers of this new tariff as part of its next regularly scheduled billing after the effective date of the tariff or no later than sixty (60) days after the effective date of the tariff.

The Company shall provide a copy of the curtailment tariff to any customer, upon request.

### **Stage 1 Exists When:**

Company is able to maintain water storage in the system at 100 percent of capacity and there are no known problems with its well production or water storage in the system.

Restrictions: Under Stage 1, Company is deemed to be operating normally and no curtailment is necessary.

Notice Requirements: Under Stage 1, no notice is necessary.

### **Stage 2 Exists When:**

- a. Company's water storage or well production has been less than 80 percent of capacity for at least 48 consecutive hours, and
- b. Company has identified issues such as a steadily declining water table, increased draw down threatening pump operations, or poor water production, creating a reasonable belief the Company will be unable to meet anticipated water demand on a sustained basis.

Restrictions: Under Stage 2, the Company may request the customers to voluntarily employ water conservation measures to reduce water consumption by approximately 50 percent. Outside watering should be limited to essential water, dividing outside watering on some uniform basis (such as even and odd days) and eliminating outside watering on weekends and holidays.

## TARIFF SCHEDULE

Attachment CPT-1

Utility: Tacna Water Company  
Docket No.: W-01344A-05-0183  
Phone No.: 928-341-9885

Sheet No: 2 of 4  
Decision No.: \_\_\_\_\_  
Effective: \_\_\_\_\_

Notice Requirements: Under Stage 2, the Company is required to notify customers by delivering written notice door to door at each service address, or by United States first class mail to the billing address or, at the Company's option, both. Such notice shall notify the customers of the general nature of the problem and the need to conserve water.

### Stage 3 Exists When:

- a. Company's total water storage or well production has been less than 50 percent of capacity for at least 24 consecutive hours, and
- b. Company has identified issues such as a steadily declining water table, increased draw down threatening pump operations, or poor water production, creating a reasonable belief the Company will be unable to meet anticipated water demand on a sustained basis.

Restrictions: Under Stage 3, Company shall request the customers to voluntarily employ water conservation measures to reduce daily consumption by approximately 50 percent. All outside watering should be eliminated, except livestock, and indoor water conservation techniques should be employed whenever possible. Standpipe service shall be suspended.

### Notice Requirements:

1. Company is required to notify customers by delivering written notice to each service address, or by United States first class mail to the billing address or, at the Company's option, both. Such Notice shall notify the customers of the general nature of the problem and the need to conserve water.
2. Beginning with Stage 3, Company shall post at least \_\_\_ sign showing the curtailment stage. Signs shall be posted at noticeable locations, like at the well sites and at the entrance to major subdivisions served by the Company.
3. Company shall notify the Consumer Services Section of the Utilities Division of the Corporation Commission at least 12 hours prior to entering Stage 3.

Once Stage 3 has been reached, the Company must begin to augment the supply of water by either hauling or through an emergency interconnect with an approved water supply in an attempt to maintain the curtailment at a level no higher than Stage 3 until a permanent solution has been implemented.

# TARIFF SCHEDULE

Attachment CPT-1

Utility: Tacna Water Company  
Docket No.: W-01344A-05-0183  
Phone No.: 928-341-9885

Sheet No: 3 of 4  
Decision No.: \_\_\_\_\_  
Effective: \_\_\_\_\_

## Stage 4 Exists When:

- a. Company's total water storage or well production has been less than 25 percent of capacity for at least 12 consecutive hours, and
- b. Company has identified issues such as a steadily declining water table, increased draw down threatening pump operations, or poor water production, creating a reasonable belief the Company will be unable to meet anticipated water demand on a sustained basis.

Restrictions: Under Stage 4, Company shall inform the customers of a **mandatory** restriction to employ water conservation measures to reduce daily consumption. Failure to comply will result in customer disconnection. The following uses of water shall be prohibited:

- ◆ Irrigation of outdoor lawns, trees, shrubs, or any plant life is prohibited
- ◆ Washing of any vehicle is prohibited
- ◆ The use of water for dust control or any outdoor cleaning uses is prohibited
- ◆ The use of drip or misting systems of any kind is prohibited
- ◆ The filling of any swimming pool, spas, fountains or ornamental pools is prohibited
- ◆ The use of construction water is prohibited
- ◆ Restaurant patrons shall be served water only upon request
- ◆ Any other water intensive activity is prohibited

The Company's operation of its standpipe service is prohibited. The addition of new service lines and meter installations is prohibited.

## Notice Requirements:

1. Company is required to notify customers by delivering written notice to each service address, or by United States first class mail to the billing address or, at the Company's option, both. Such notice shall notify the customers of the general nature of the problem and the need to conserve water.
2. Company shall post at least \_\_\_ sign showing curtailment stage. Signs shall be posted at noticeable locations, like at the well sites and at the entrance to major subdivisions served by the Company.
3. Company shall notify the Consumer Services Section of the Utilities Division of the Corporation Commission at least 12 hours prior to entering Stage 4.

## TARIFF SCHEDULE

Attachment CPT-1

Utility: Tacna Water Company  
Docket No.: W-01344A-05-0183  
Phone No.: 928-341-9885

Sheet No: 4 of 4  
Decision No.: \_\_\_\_\_  
Effective: \_\_\_\_\_

Once Stage 4 has been reached, the Company must augment the supply of water by hauling or through an emergency interconnect from an approved supply or must otherwise provide emergency drinking water for its customers until a permanent solution has been implemented.

Customers who fail to comply with the above restrictions will be given a written notice to end all outdoor use. Failure to comply within two (2) working days of receipt of the notice will result in temporary loss of service until an agreement can be made to end unauthorized use of outdoor water. To restore service, the customer shall be required to pay all authorized reconnection fees. If a customer believes he/she has been disconnected in error, the customer may contact the Commission's Consumer Services Section at 1-800-222-7000 to initiate an investigation.

MEMORANDUM

DATE: December 21, 2005

TO: Crystal Brown  
Public Utilities Analyst V  
Utilities Division

FROM: Marlin Scott, Jr.   
Utilities Engineer  
Utilities Division

RE: Tacna Water Company  
Docket No. W-01344A-05-0647 (Financing)

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**Introduction**

Tacna Water Company ("Company") has submitted a financing application to assist in funding the installation of a water treatment system. The water treatment system is estimated to cost \$260,268 in which the Company is requesting \$195,201 with Water Infrastructure Financing Authority ("WIFA") indebtedness. The Company operates a water system in Tacna, a community approximately 40 miles east of Yuma, in Yuma County.

**Existing Water System**

The existing system consists of a pumping site and a distribution system. The pumping site has two wells producing an estimated total production of 310 gallons per minute ("GPM"), an 8,000 gallon pressure tank and a distribution system serving 152 service connections. The arsenic concentration reported for its two wells is 30 parts per billion ("ppb").

**Financing Application**

The Company is requesting WIFA financing approval in the amount of \$195,201 to assist in funding a water treatment system needed to treat a contracted 100 acre-feet per year allocation of Colorado River water from the Wellton-Mohawk Irrigation and Drainage District. A brief description of the treatment system project, estimated at \$260,268, is as follows:

- Phase 1: This phase involves the construction of a canal turn-out, pumping site and approximately 8,000 feet of transmission main, at an estimated cost of \$66,033.
- Phase 2: This phase will consist of the construction of a 100 GPM Trimite water treatment plant (adsorption clarifier/filter tank), refurbishment of the old 325,000 gallon storage tank and additional booster pumps. Estimated cost of this project is \$194,235.
- Total estimated cost of Phases 1 and 2: \$260,268

In the financing application as Attachment B, the Company provided a detailed cost breakdown for the water treatment system project as shown in the three attachments.

The construction of Phase 1—Transmission Main and Phase 2—Treatment Plant are needed for the new 100 GPM water treatment system that will treat surface and groundwater in order to meet the new arsenic maximum contaminant level.

#### **Arizona Department of Environmental Quality (“ADEQ”) Compliance**

The ADEQ reported no system deficiencies and has determined the water system is currently delivering water that meets water quality standards required by Arizona Administrative Code, Title 18, Chapter 4.

#### **Conclusion and Recommendation**

Staff concludes that the water treatment system project is appropriate and the cost estimate totaling \$260,268 is reasonable. The Company is requesting \$195,201 for WIFA indebtedness approval to assist in funding the water treatment system. The construction of Phase 1—Transmission Main and Phase 2—Treatment Plant are needed for the new 100 GPM water treatment system that will treat surface and groundwater in order to meet the new arsenic maximum contaminant level. However, no “used and useful” determination of the proposed project items was made and no particular treatment should be inferred for rate making or rate base purposes in the future.







Tacna Water Management Company  
Docket No. W-01344A-05-0647  
Page 2

### MEMORANDUM

TO: Charles Myhlhousen  
Public Utilities Analyst III  
Utilities Division

FROM: Crystal S. Brown *CB*  
Public Utilities Analyst V  
Utilities Division

DATE: December 15, 2005

RE: TACNA WATER MANAGEMENT COMPANY  
DOCKET NO. W-01344A-05-0647 (Financing Application)

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#### **Introduction and Background**

On September 7, 2004, Tacna Water Management Company ("Tacna" or "Company") filed an application with the Arizona Corporation Commission ("Commission") requesting authorization to borrow \$195,201 from the Water Infrastructure Finance Authority of Arizona ("WIFA").

Tacna is requesting the financing authorization in order to comply with the United States Environmental Protection Agency's ("EPA") revised drinking water standard for arsenic. The new standard that becomes effective January 23, 2006, reduces the maximum contaminant level from the current 50 parts per billion to 10 parts per billion ("ppb").

#### **Notice**

On September 29, 2005, Tacna filed an affidavit of publication verifying public notice of its financing application. The Company published notice of its financing application in *The Sun*, a newspaper of general circulation in Yuma, Yuma County, Arizona on September 19, 2005. A copy of this notice is attached.

#### **Purpose and Terms of the Proposed Financing**

The purpose of the financing is to provide funds for arsenic removal water treatment plant located in Arizona. Staff examined the construction plans and estimated costs for Tacna's water treatment project and found them to be reasonable and appropriate as discussed in the attached Engineering Memorandum.

The Company's financing application did not explicitly identify the loan amount, amortization period or interest rate for the proposed loan. Staff obtained documentation from a Company representative showing that the anticipated loan amount is \$195,201. The amortization period and interest rate are the same as those used by WIFA.<sup>1</sup> The Company plans to use \$65,067 in equity and \$195,201 in long-term debt to finance the \$260,268 construction project.

### **Financial Analysis**

Staff's analysis is based on Staff's recommended rates and the Company's financial statements dated December 31, 2003. The financial analysis shown on Schedule CSB-1 presents selected financial information from the financial statements and the pro forma effect of the \$195,201 loan and the \$65,067 equity infusion. Schedule CSB-1 also shows the capital structure and ratios for debt service coverage ("DSC") and times interest earned ("TIER").

#### Capital Structure

At December 31, 2003, Tacna's capital structure consisted of 100 percent equity. Tacna drawing the entire proposed loan of \$195,201 and infusing \$65,067 in equity would result in a pro forma capital structure comprised of 1.7 percent short-term debt, 68.4 percent long-term debt and 29.9 percent equity as shown on Schedule CSB-1.

Staff evaluates a number of factors (including access to capital, current level of debt, system age and condition, management experience, the adequacy of existing or proposed rates) to determine an appropriate capital structure for each utility. Typically, an appropriate capital structure for a privately owned or investor owned utility would have at least 40 percent equity. Accordingly, the Company's proposed loans would result in a capital structure that is more leveraged than preferable.

However, there are no other known options for Tacna to finance the construction of the arsenic removal plant. Non-compliance may result in delivery of unsafe water and other consequences that may have detrimental operational and financial impacts on the Company. Tacna should develop a plan to keep its equity from falling below approximately 30 percent in the short-term and to build equity to at least 40 percent of total capital in the long-term.

#### TIER and DSC – Excluding Arsenic Surcharge

Staff also examined the effects of the proposed financing on the Company's TIER and DSC.

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<sup>1</sup> WIFA typically uses a 20 year amortization period. The WIFA interest rate calculation for this loan is:  
(Prime Rate + 2%) x Subsidy Rate = (7.00% + 2%) x .75 = 6.75%

DSC represents the number of times internally generated cash (i.e., earnings before interest, income tax, depreciation and amortization expenses) covers required principle and interest payments on debt. A DSC greater than 1.0 means operating cash flow is sufficient to cover debt obligations.

TIER represents the number of times earnings before income tax expense covers interest expense on debt. A TIER greater than 1.0 means that operating income is greater than interest expense. A TIER less than 1.0 is not sustainable in the long term but does not necessarily mean that debt obligations cannot be met in the short term.

Schedule CSB-1, column B, shows that the pro forma effect on Tacna's financial ratios of obtaining a \$195,201 loan at an interest rate of 6.75 percent, infusing \$65,067 in equity and implementation of Staff's recommended permanent rates is to produce a TIER of 0.86 and a DSC of 0.63. These ratios indicate that the Company would lack sufficient earnings and operating cash flow to meet its long-term debt obligations.

#### *Additional Surcharge Revenue Required to Preserve Cash Flow*

The Company must comply with the EPA arsenic drinking water standard by January 2006 regardless of its financial position. Accordingly, Staff calculated the additional annual revenue that Tacna would require (assuming Staff's recommended permanent rates are adopted) to meet its obligations, including an estimated \$195,201 loan, and provide the Company with the same amount of cash flow it had before the loan. Schedule CSB-2 shows that the Company would need an additional \$4,781 for principal, \$13,030 for interest expense and \$1,265 for income taxes on the additional revenue for a total of \$19,075.

#### *TIER and DSC – Including Arsenic Surcharge*

Schedule CSB-3 presents a pro forma income statement and other financial information demonstrating that the addition of \$19,076 of surcharge revenue would provide the Company with the funds necessary to pay the interest (at 6.75 percent) and principal (20-year amortization) on the proposed \$195,201 WIFA loan and the incremental income taxes resulting from the change in taxable income so that it would generate the same cash flow subsequent to as before issuance of the loan. The \$19,076 surcharge produces a 2.32 TIER and a 1.70 DSC. These pro forma ratios indicate that Tacna would have adequate earnings and cash flows to meet all obligations with a \$19,076 surcharge.

#### **Conclusion and Recommendations**

Staff concludes that the construction of the arsenic treatment plant is necessary for Tacna to comply with the EPA's revised drinking water standard that requires reducing the arsenic level in drinking water to 10 ppb by January 23, 2006.

Staff concludes that its recommended permanent rates are insufficient to meet debt service obligations of the proposed long-term debt.

Staff concludes that the issuance of an estimated \$195,201 long-term debt on the terms described in the filing would result in the Company having a higher than normal leveraged capital structure. However, Staff also recognizes that there are no other known options for Tacna to finance the construction of the arsenic treatment plant to deliver safe drinking water. Not complying with the federal arsenic rule may have detrimental operational and financial impacts on the Company.

Staff recommends approval of Tacna's request for authorization to incur long-term debt with the understanding that the Commission will subsequently also consider an arsenic removal surcharge to enable the Company to meet its principal and interest obligations on the proposed WIFA loan, and incremental income taxes on the surcharge.

Staff recommends that Tacna file before the Commission an arsenic removal surcharge tariff application that would enable the Company to meet its principal and interest obligations on the proposed WIFA loan and income taxes on the surcharge.

Staff recommends that the Company follow the same methodology presented on Schedule CSB-4 to calculate the additional revenue needed to meet its interest, principal and additional income tax obligations on the WIFA loan using actual loan amounts and use the result to develop its arsenic removal surcharge tariff application. The increase in revenue calculation should be included in the arsenic removal surcharge tariff application.

Staff further recommends ordering Tacna to provide to the Utilities Division Director copies of its calculation of revenue requirement for principal and interest obligations on the WIFA loan and incremental income taxes on the surcharge within 60 days after the loan agreement is signed by both WIFA and the Company.

Staff further recommends authorizing the Company to execute any documents necessary to effectuate the authorizations granted.

Staff further recommends ordering Tacna to provide to the Utilities Division Director copies of all executed financing documents within 60 days after the loan agreement is signed.

**Instructions to Calculate the Annual Surcharge Revenue Requirement on the Loan**

**Step 1. Find the Annual Payment on the Loan**

Refer to Table A, the Conversion Factor Table. Reading the table from top to bottom, find the interest rate in column A that is equal to the stated annual interest rate of the loan. Reading across the table, find the Annual Payment Conversion Factor in Column B that corresponds with the loan interest rate (in the event that the loan interest rate is different from the interest rates in Table A, use the next higher interest rate that can be found in Table A). Multiply that annual payment conversion factor by the total amount of the loan to calculate the annual debt service on the loan.

Annual payment conversion factor  
(\* ) Times total amount of the loan  
(=) Equals annual debt service on the loan

**Step 2. Find the Annual Interest Payment on the Loan**

Refer to Table A and find the annual interest payment conversion factor in Column C that corresponds with the stated annual interest rate of the loan. Multiply the annual interest payment conversion factor by the total amount of the loan to calculate the annual interest expense on the loan.

Annual interest payment conversion factor  
(\* ) Times total amount of the loan  
(=) Equals annual interest expense on the loan

**Step 3. Find the Annual Principal Payment on the Loan**

Refer to Table A and find the annual principal payment conversion factor in Column D that corresponds with the stated annual interest rate of the loan. Multiply the annual principal payment conversion factor by the total amount of the loan to calculate the annual principal payment on the loan.

Annual principal payment conversion factor  
(\* ) Times total amount of the loan  
(=) Equals annual principal payment on the loan

Step 4. Find the Gross Revenue Conversion Factor<sup>1</sup> (GRCF)

The GRCF calculated below is used in step 5.

$$\text{GRCF} = \frac{1}{1 - \text{Effective incremental income tax rate}^2}$$

$$\text{GRCF} = \frac{1}{1 - 0.2092} = \frac{1}{0.7907} = 1.2646$$

Step 5. Find the Incremental Income Tax Factor

The incremental income tax factor is calculated below:

$$\begin{aligned} \text{Incremental Income Tax Factor} &= \text{GRCF} - 1 \\ &= 1.2646 - 1 \\ &= 0.2646 \end{aligned}$$

Step 6. Find the Annual Income Tax Component of the Surcharge Revenue

Multiply the incremental income tax factor by the annual principal payment on the loan determined in step 3 to calculate the income tax component of the annual surcharge revenue.

Incremental income tax conversion factor  
(\* ) Times the annual principal payment on the loan  
(=) Equals the annual income tax component of the annual surcharge revenue

Step 7. Find the Debt Service Component of the Annual Surcharge Revenue

Add the annual interest expense on the loan determined in step 2 to the annual principal payment determined in step 3. The sum is the debt service component of the annual surcharge revenue.

Annual interest payment on the loan  
(+ ) Plus annual principal payment  
(=) Equals the debt service component of the annual surcharge revenue

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<sup>1</sup> The gross revenue conversion factor indicates the incremental revenue required to increase operating income by one dollar.

<sup>2</sup> The effective income tax rate represents the effective tax rate on the incremental income. Use the effective incremental income tax rate of 20.9228%.

**Step 8. Find the Total Annual Surcharge Revenue Requirement Needed for the Loan.**  
Add the annual income tax component determined in step 6 to the annual debt service component determined in step 7. The sum equals the annual surcharge revenue requirement for the loan.

Annual income tax component of the surcharge revenue  
(+) Plus annual debt service component of the surcharge revenue  
(=) Equals the total annual surcharge revenue requirement for the loan

*Instruction for Step 9*

**Step 9. Find the equivalent bills.**  
Multiply the NARUC meter capacity multiplier by the number of current customers and by the number of months per year. The sum of the products equals the equivalent bills.

*Result*

Col A	Col B	Col C	Col D	Col E
Meter Size	NARUC Meter Capacity Multiplier	Number of Customers	Number of Months In Year	Equivalent Bills Col B x C x D
5/8"x 3/4" Meter	1	0	12	0
3/4" Meter	1.5	0	12	0
1" Meter	2.5	0	12	0
1½" Meter	5	0	12	0
2" Meter	8	0	12	0
3" Meter	15	0	12	0
4" Meter	25	0	12	0
6" Meter	50	0	12	0
			<b>Total</b>	<b>0</b>

*Instruction for Step 10*

**Step 10. Find the monthly surcharge for 5/8" x 3/4" customers.**  
Divide the result obtained in step 8 by the number of equivalent bills calculated in step 9 to obtain the monthly surcharge for 5/8" x 3/4" customers.

*Result*

\$19,086	Total annual surcharge revenue requirement for the loan (Step 8)
÷ 2,904	Number of equivalent bills
\$ 6.57	Total monthly surcharge for 5/8" x 3/4" customers

*Instruction for Step 11*

Step 11. Find the monthly surcharge for remaining meter size customers.

Multiply the Result obtained in step 10 by the NARUC meter capacity multipliers to obtain the monthly surcharges for all other meter sizes.

<b>Col A</b>	<b>Col B</b>	<b>Col C</b>	<b>Col D</b>
<b>Meter Size</b>	<b>NARUC Meter Capacity Multiplier</b>	<b>5/8" x 3/4" Customers' Surcharge</b>	<b>Surcharge by Meter Size Col B x C</b>
5/8"x 3/4" Meter	1	\$0.00	\$ 0.00
3/4" Meter	1.5	\$0.00	\$ 0.00
1" Meter	2.5	\$0.00	\$ 0.00
1½" Meter	5	\$0.00	\$ 0.00
2" Meter	8	\$0.00	\$ 0.00
3" Meter	15	\$0.00	\$ 0.00
4" Meter	25	\$0.00	\$ 0.00
6" Meter	50	\$0.00	\$ 0.00

**Example**

Loan amount: \$195,201  
Term: 20 years  
Stated Annual Interest Rate: 6.75%

*Instruction for Step 1*

Step 1. Find the Annual Payment on the Loan

Refer to Table A, the Conversion Factor Table. Reading the table from top to bottom, find the interest rate in column A that is equal to the stated annual interest rate of the loan. Reading across the table, find the Annual Payment Conversion Factor in Column B that corresponds with the loan interest rate (in the event that the loan interest rate is different from the interest rates in Table A, use the next higher interest rate that can be found in Table A). Multiply that annual payment conversion factor by the total amount of the loan to calculate the annual debt service on the loan.

*Result*

0.0912	Annual Payment Conversion Factor (Table A, Line 14, Column B)
<u>x \$195,201</u>	Total loan amount
\$ 17,802	Annual loan payment

*Instruction for Step 2*

Step 2. Find the Annual Interest Payment on the Loan

Refer to Table A and find the annual interest payment conversion factor in Column C that corresponds with the stated annual interest rate of the loan. Multiply the annual interest payment conversion factor by the total amount of the loan to calculate the annual interest expense on the loan.

*Result*

0.0668	Table A, Line 14, Column C
<u>x \$195,201</u>	Total loan amount
\$ 13,039	Annual interest expense

*Instruction for Step 3*

Step 3. Find the Annual Principal Payment on the Loan

Refer to Table A and find the annual principal payment conversion factor in Column D that corresponds with the stated annual interest rate of the loan. Multiply the annual principal payment conversion factor by the total amount of the loan to calculate the annual principal payment on the loan.

*Result*

0.0245	Table A, Line 14, Column D
<u>x \$195,201</u>	Total loan amount
\$ 4,782	Annual principal payment

*Instruction for Step 4*

Step 4. Find the Gross Revenue Conversion Factor (GRCF)

The GRCF calculated below is used in step 5.

*Result*

$$\text{GRCF} = \frac{1}{1 - \text{Effective incremental income tax rate}}$$

$$\text{GRCF} = \frac{1}{1 - 0.2092} = \frac{1}{0.7907} = 1.2646$$

*Instruction for Step 5*

Step 5. Find the Incremental Income Tax Factor

The incremental income tax factor is calculated below:

*Result*

$$\begin{aligned} \text{Incremental Income Tax Factor} &= \text{GRCF} - 1 \\ &= 1.2646 - 1 \\ &= 0.2646 \end{aligned}$$

*Instruction for Step 6*

Step 6. Find the Annual Income Tax Component of the Surcharge Revenue

Multiply the incremental income tax factor by the annual principal payment on the loan determined in step 3 to calculate the income tax component of the annual surcharge revenue.

*Result*

0.2646	Incremental income tax factor (Step 5)
x \$4,782	Total loan amount
\$1,265	Annual income tax component of the annual surcharge revenue

*Instruction for Step 7*

Step 7. Find the Debt Service Component of the Annual Surcharge Revenue

Add the annual interest expense on the loan determined in step 2 to the annual principal payment determined in step 3. The sum is the debt service component of the annual surcharge revenue.

*Result*

\$13,039	Annual interest expense (Step 2)
+ \$ 4,782	Annual principal payment (Step 3)
\$17,821	Debt service component of the annual surcharge revenue

*Instruction for Step 8*

Step 8. Find the Total Annual Surcharge Revenue Requirement Needed for the Loan.

Add the annual income tax component determined in step 6 to the annual debt service component determined in step 7. The sum equals the annual surcharge revenue requirement for the loan.

*Result*

\$ 1,265	Annual income tax component (Step 6)
+ \$17,821	Debt service component (Step 7)
\$19,086	Total annual surcharge revenue requirement for the loan

*Instruction for Step 9*

Step 9. Find the equivalent bills.

Multiply the NARUC meter capacity multiplier by the number of current customers and by the number of months per year. The sum of the products equals the equivalent bills.

*Result*

Col A	Col B	Col C	Col D	Col E
Meter Size	NARUC Meter Capacity Multiplier	Number of Customers	Number of Months In Year	Equivalent Bills Col B x C x D
5/8"x 3/4" Meter	1	0	12	0
3/4" Meter	1.5	114	12	2,052
1" Meter	2.5	0	12	0
1½" Meter	5	11	12	660
2" Meter	8	2	12	192
3" Meter	15	0	12	0
4" Meter	25	0	12	0
6" Meter	50	0	12	0
			<b>Total</b>	<b>2,904</b>

*Instruction for Step 10*

Step 10. Find the monthly surcharge for 5/8" x 3/4" customers.

Divide the result obtained in step 8 by the number of equivalent bills calculated in step 9 to obtain the monthly surcharge for 5/8" x 3/4" customers.

*Result*

\$19,086	Total annual surcharge revenue requirement for the loan (Step 8)
÷ 2,904	Number of equivalent bills
\$ 6.57	Total monthly surcharge for 5/8" x 3/4" customers

*Instruction for Step 11*

Step 11. Find the monthly surcharge for remaining meter size customers.

Multiply the Result obtained in step 10 by the NARUC meter capacity multipliers to obtain the monthly surcharges for all other meter sizes.

Col A	Col B	Col C	Col D
Meter Size	NARUC Meter Capacity Multiplier	5/8" x 3/4" Customers' Surcharge	Surcharge by Meter Size Col B x C
5/8"x 3/4" Meter	1	\$6.57	\$ 6.57
3/4" Meter	1.5	\$6.57	\$ 9.85
1" Meter	2.5	\$6.57	\$ 16.42
1½" Meter	5	\$6.57	\$ 32.85
2" Meter	8	\$6.57	\$ 52.56
3" Meter	15	\$6.57	\$ 98.55
4" Meter	25	\$6.57	\$164.25
6" Meter	50	\$6.57	\$328.50

**FINANCIAL ANALYSIS**

Selected Financial Data  
Including Immediate Effects of the Proposed Debt  
**Excluding Arsenic Surcharge**

Line No.	[A] Staff Recommended Permanent Rates Without Loan	[B] Adjustments	[C] Staff Recommended Permanent Rates With Loan	
1	<b>INCOME STATEMENT</b>			
2	<b>Operating Revenue</b>			
3	\$ 27,045	\$ -	\$ 27,045	
4	\$ -	\$ -	\$ -	
5	\$ -	\$ -	\$ -	
6	<b>\$ 27,045</b>	<b>\$ -</b>	<b>\$ 27,045</b>	
7	<b>Operating Expenses</b>			
8	\$ 932	\$ -	\$ 932	
9	\$ 2,523	\$ -	\$ 2,523	
10	\$ 638	\$ -	\$ 638	
11	\$ 8,917	\$ -	\$ 8,917	
12	\$ 1,344	\$ -	\$ 1,344	
13	\$ 5	\$ -	\$ 5	
14	\$ 1,533	\$ -	\$ 1,533	
15	\$ 2,334	\$ -	\$ 2,334	
16	<b>\$ 18,226</b>	<b>\$ -</b>	<b>\$ 18,226</b>	
17	\$ 8,819	\$ -	\$ 8,819	
18	\$ -	\$ -	\$ -	
19		\$ 13,030	\$ 13,030	
20	\$ -	\$ -	\$ -	
21	\$ 8,819	\$ (13,030)	\$ (4,211)	
22	\$ -	\$ 4,781	\$ 4,781	
23	<b>TIER</b>			
24	[L 15 + L 17] ÷ L 19	N/A	0.86	
25	<b>DSC</b>			
26	[L 15 + L 17 + L 13] ÷ [L 19 + L 22]	N/A	0.63	
27	\$ -	0%	\$ 4,781	1.7%
28	\$ -	0%	\$ 190,420	68.4%
29	\$ 18,121	100%	\$ 83,188	29.9%
30	\$ 18,121	100%	\$ 278,389	100.0%

**CALCULATION OF ADDITIONAL REVENUE NEEDED  
FOR PRINCIPAL, INTEREST, AND INCOME TAXES  
TO PRESERVE CASH FLOW**

Line No.		
1	Annual Principal Payment on Loan	\$ 4,781
2	Multiplied by: Gross Revenue Conversion Factor	1.265
3	<b>Additional Revenue Needed for Principal Payment [L1 x L2]</b>	<u>\$ 6,046</u>
4	Additional Revenue Needed for Principal Payment (from L 3)	\$ 6,046
5	Less: Annual Principal Payment on Loan	\$ 4,781
6	<b>Additional Revenue Needed for Income Taxes [L4 - L5]</b>	<u>\$ 1,265</u>
7	Annual Principal Payment on Loan (from L5)	\$ 4,781
8	Annual Interest Payment on Loan	\$ 13,030
9	Annual Principal and Interest Payments (L1 + L8)	\$ 17,811
10	Plus: Additional Revenue Needed for Income Taxes (from L6)	\$ 1,265
11	<b>Total Additional Revenue Needed for Principal, Interest, &amp; Income Taxes [L9 + L10]</b>	<u><u>\$ 19,076</u></u>

**FINANCIAL ANALYSIS**

Selected Financial Data  
Including Immediate Effects of the Proposed Debt  
**Includes Arsenic Surcharge**

Line No.	[A] Staff Recommended Permanent Rates Without Loan	[B] Adjustments	[C] Staff Recommended Rates with Surcharge, Loan Prin & Interest, and Income taxes	
1	<b>INCOME STATEMENT</b>			
2	<b>Operating Revenue</b>			
3	\$ 27,045	\$ -	\$ 27,045	
4	\$ -	\$ 19,076	\$ 19,076	
5	\$ -	\$ -	\$ -	
6	<b>Total Operating Rev:</b>	<b>\$ 19,076</b>	<b>\$ 46,121</b>	
7	<b>Operating Expenses</b>			
8	\$ 932	\$ -	\$ 932	
9	\$ 2,523	\$ -	\$ 2,523	
10	\$ 638	\$ -	\$ 638	
11	\$ 8,917	\$ -	\$ 8,917	
12	\$ 1,344	\$ -	\$ 1,344	
13	\$ 5	\$ -	\$ 5	
14	\$ 1,533	\$ -	\$ 1,533	
15	\$ 2,334	\$ 1,265	\$ 3,599	
16	<b>Total Operating Expense</b>	<b>\$ 1,265</b>	<b>\$ 19,491</b>	
17	<b>Operating Income</b>	<b>\$ 17,811</b>	<b>\$ 26,630</b>	
18	\$ -	\$ -	\$ -	
19	\$ -	\$ 13,030	\$ 13,030	
20	\$ -	\$ -	\$ -	
21	<b>Total Other Interest Expense</b>	<b>\$ 13,030</b>	<b>\$ 13,030</b>	
22	<b>Net Income</b>	<b>\$ 4,781</b>	<b>\$ 13,600</b>	
23	Principal Repayment	\$ 4,781	\$ 4,781	
24	Cash Flow [(L13 + L22) - L23]	\$ 0	\$ 8,824	
25	TIER			
26	[L 15 + L 17] ÷ L 19	N/A	2.32	
27	DSC			
28	[L 15 + L 17 + L 13] ÷ [L 19 + L 22]	N/A	1.70	
29	Short-term Debt	0%	\$ 4,781	1.7%
30	Long-term Debt	0%	\$ 190,420	68.4%
31	Common Equity	100%	\$ 83,188	29.9%
32	Total Capital	100%	\$ 278,389	100.0%

**TABLE A**  
Conversion Factor Table (Based on a 20-year Loan)

Line No	Column A Annual Interest	Column B Annual Payment Conversion Factor	Column C Annual Interest Payment Conversion Factor	Column D Annual Principal Payment Conversion Factor
1	3.50%	0.0696	0.0344	0.0352
2	3.75%	0.0711	0.0369	0.0342
3	4.00%	0.0727	0.0394	0.0333
4	4.25%	0.0743	0.0419	0.0324
5	4.50%	0.0759	0.0444	0.0316
6	4.75%	0.0775	0.0468	0.0307
7	5.00%	0.0792	0.0493	0.0299
8	5.25%	0.0809	0.0518	0.0291
9	5.50%	0.0825	0.0543	0.0283
10	5.75%	0.0843	0.0568	0.0275
11	6.00%	0.0860	0.0593	0.0267
12	6.25%	0.0877	0.0618	0.0259
13	6.50%	0.0895	0.0643	0.0252
14	6.75%	0.0912	0.0668	0.0245
15	7.00%	0.0930	0.0692	0.0238
16	7.25%	0.0948	0.0717	0.0231
17	7.50%	0.0967	0.0742	0.0224
18	7.75%	0.0985	0.0767	0.0218
19	8.00%	0.1004	0.0792	0.0211